

## Viscosity of Molten GaSb and InSb

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Viscosities of molten GaSb and InSb as the III-V compound semiconductors have been measured for the thermophysical study of semiconductor melts. The apparatus used is oscillating viscometer with a cylindrical crucible. The crucible used in this work was made of quartz and the melt was sealed perfectly inside to prevent the leakage of antimony vapor. The crucible containing the melt was contained in the nickel crucible to connect it to the suspension system. The furnace used consists of three heating elements which are controlled independently to obtain excellent temperature uniformity. The environment inside the viscometer was He with low viscosity and chemical inertness. The samples, GaSb and InSb were synthesized by mixing and melting the individual elements of 99.999% purity together with LiCl-KCl eutectic molten salt flux. The measurements were performed in the temperature range from the melting points to about 1520K for GaSb and to about 1360K for InSb. The viscosities obtained for both GaSb and InSb showed good Arrhenius temperature dependence in spite of their wide temperature range. The absolute viscosities of both GaSb and InSb are very similar and relatively low compared with usual liquid metals. The tendency is very different from the literature values, which showed non-Arrhenian behavior, reported by Glazov. This discrepancy was found for the case of elemental semiconductors, Si and Ge, melts between the author's previous results and Glazov's results.